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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/802,666	03/17/2004	Mark Rodighiero	52202/JEJ/U56	2687
23363	7590	02/08/2006	EXAMINER	
CHRISTIE, PARKER & HALE, LLP			AKANBI, ISIAKA O	
PO BOX 7068			ART UNIT	
PASADENA, CA 91109-7068			PAPER NUMBER	
			2877	

DATE MAILED: 02/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

EV

Office Action Summary	Application No. 10/802,666	Applicant(s) RODIGHERO ET AL.	
	Examiner Isiaka O. Akanbi	Art Unit 2877	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

The examiner approves the drawings filed 17 March 2004.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-32 are rejected under 35 U.S.C. 102(e) as being anticipated by Jang et al. (6,608,959 B2).

As regard to claim 1, Jang discloses a method of aligning optical components of photonic package comprising of the following:

initially aligning the optical components, fixing the optical components with respect to one another through laser welding (col. 1, line 32-col. 2, line 1-10), determining a direction to deform at least one of the optical components through performing a sweep of force vectors, and applying a force determined direction to plastically deform said at least one of the optical components to re-align the optical components (col. 5, line 28-40).

As to claim 2, according to claim 1, Jang discloses wherein initially aligning comprising: providing an actual position signal as a feedback and driving at least one motor to align the optical components using the actual position signal (fig. 5b)(col. 5, line 34-40).

As to claims 3 and 31, Jang discloses wherein applying the force in the determined direction comprising: providing a force feedback signal and controlling an applied force vector using the force feedback signal (fig. 5b)(col. 5, line 34-col. 6, line 1-21).

As to claims 4 and 28, Jang discloses performing a linear sweep force vectors to confirm the determined direction (fig. 5a)(col. 5, line 4-6).

As to claim 5, Jang discloses wherein performing the sweep of force vectors comprises elastically deforming at least one of the optical components using the force vectors (col. 5, line 28-34).

As to claim 6, Jang discloses wherein performing the sweep of force vectors further comprising measuring an optical Signal output associated with each force vector (col. 5, line 28-34).

As to claim 7, Jang discloses wherein determining the direction comprising selecting the direction of a largest optical signal output measured during the sweep (col. 6, line 12-21).

As to claim 8, Jang discloses wherein applying the force comprising: grabbing one of the components, and moving the grabbed one of the components in the determined direction (fig. 8)(fig. 9)(col. 6, line 8-11).

As to claims 9 and 10, Jang discloses wherein applying the force comprising gradually increasing the force in the determined direction until a desired force level has been reached and decreasing force to a zero force level (fig. 8)(fig. 9)(col. 6, line 8-21).

As to claim 11, Jang discloses measuring an optical signal output after the force has been decreased to the zero force level (col. 4, line 61-col. 5, line 1-14).

As to claim 12, Jang discloses wherein applying the force further comprising holding the force constant at the desired force level for a predetermined period of time prior to gradually decreasing the force (col. 4, line 63-65).

As to claims 13 and 15, Jang discloses wherein duration of the constant force is increased if the optical signal output does not have a predetermined strength (fig. 7)(col. 5, line 40-65).

As to claim 14, according to claim 13, the reference of Jang discloses further applying the force to plastically deform said at least one of the optical components after increasing the duration of the constant force in another embodiment (fig. 11)(col. 6, line 66-col. 7, line 1-4).

As to claim 16, Jang discloses applying the force to plastically deform said at least one of the optical components after increasing the desired force level (col. 6, line 67-col. 7, line 1-4).

As to claim 17, Jang discloses if too much force has been applied, determining the direction to deform said at least one of the optical components through performing the sweep of force vectors and applying the force plastically deform said at least one of the optical components (col. 7, line 10-20).

As to claim 18, Jang discloses if the direction cannot be determined, increasing a magnitude of the force vectors and performing the sweep of force vectors (col. 5, line 28-40).

As to claim 19, Jang discloses wherein performing the sweep of force vectors comprising performing the sweep of force vectors on an X-Y plane (fig. 2)(col. 4, line 63-col. 5, line 1-13).

As to claim 20, Jang discloses a system for performing a force bend alignment to re-align optical components of a photonic package after permanent fixation, comprising:

a stage (102) capable of providing movements and exerting force in at least one direction and a gripper (106) suitable for grabbing an optical component of the photonic package, wherein the gripper performs a sweep of force vectors on at least one of the optical components of the photonic package in an automated manner to determine direction to deform a supporting member coupled to said at least one of the optical components to re-align the optical components (col. 4, line 19-31).

As to claim 21, Jang discloses wherein a force vector is applied to the supporting member to deform it, said system further comprising a control feedback loop for providing a force feedback signal and for adjusting the applied force vector using the force feedback signal (fig. 5b)(col. 5, line 34-40).

As to claim 22, Jang discloses wherein the force feedback signal is used to zero out forces exerted by the gripper upon grabbing the optical component to perform the sweep of force vectors (fig. 5b)(col. 6, line 35-47).

As to claim 23, Jang discloses wherein the control feedback loop provides an actual position signal, which is used to control initial alignment of the optical components (fig. 5a-b)(col. 4, line 51-67).

As to claim 24, Jang discloses wherein said at least one of the optical components is plastically deformed so as to realize the re-alignment (col. 6, line 67-col. 7, line 1-4).

As to claim 25, Jang discloses wherein the optical components comprising a ferrule, and the supporting member comprising a clip attached to the ferrule, and wherein the clip is plastically deformed by grabbing the ferrule with a gripper and exerting force on it through moving at least one of the stage and the gripper (figs. 2, 4, 6, 8, 9 and 11)(col. 6, line 67-col. 7, line 1-4)

As to claims 26 and 27, Jang discloses wherein the optical components further comprising a laser or photodetector, wherein the re-alignment is between the ferrule and said laser or photodetector and wherein a direction to deform the clip is determined through measuring an optical signal after applying each force vector during the sweep (fig. 6)(fig. 8)(fig. 9)(fig. 11)(col. 6, line 22- col. 7, line 1-4).

As to claim 29, Jang discloses wherein the gripper grabs the clip softly or loosely, whereby the gripper does not exert torsion forces (fig. 6)(col. 7, line 2-4).

As to claim 30, Jang discloses a method of aligning optical components of a photonic package comprising of the following:

a) aligning the optical components, b) fixing the optical components with respect to one another through laser welding, c) determining a direction to deform one of said optical components through performing a sweep of force vectors, d) applying a force to plastically deform said one of the optical components to re-align the optical components, e) measuring an optical signal after said plastic deformation, f) performing c) through e) if too much force has been applied and g) increasing force level and performing d) through e) if too little force has been applied (fig. 4)(fig. 5a-b)(col. 4, line 19-col. 6, line 1-47).

As to claim 32, Jang discloses wherein performing the sweep of force vectors in step c) comprises performing the sweep of force vectors on at least an X-Y plane (fig. 4)(fig. 5a-b)(col. 4, line 19-67).

Additional Prior Art

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The references listed in the attached form PTO-892 teach of other prior art method of aligning optical components of a photonic package that may anticipate or obviate the claims of the applicant's invention.

Conclusion

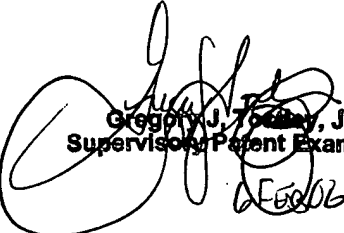
Fax/Telephone Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Isiaka Akanbi whose telephone number is (571) 272-8658. The examiner can normally be reached on 8:00 a.m. - 4:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory J. Toatley Jr. can be reached on (571) 272-2800 ext. 77. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Isiaka Akanbi
February 2, 2006


Gregory J. Toatley, Jr.
Supervisory Patent Examiner
FEB 02